Abstract

Arrangement and method for converting a thermometer
code

The invention relates to an arrangement for converting
a binary input signal corresponding to an n-bit
thermometer code into a binary output code different
therefrom,
-    having a first number of OR gate circuits, into
the inputs of which bits of the thermometer code can
be coupled,
-    having a first adder, which is connected
downstream of the OR gate circuits and into the inputs
of which the output signals of the OR gate circuits can
be coupled and which provides at least one binary
output signal for the output code at its outputs,
-    having a second number of multiplexer circuits,
into the inputs of which bits of the thermometer code
can be coupled and into the multiplexer selection
terminals of which the output signals of the first
adder can be coupled,
-    having a second adder, which is connected
downstream of the multiplexer circuits and into the
inputs of which the output signals of the multiplexer
circuits can be coupled and which provides at least one
further binary output signal for the output code at its
outputs.
The invention furthermore relates to a conversion
method.

Figure 2

List of reference symbols

1	converter
2, 3, 4	OR gate (circuits)
5	first (full) adder
6, 7, 8	multiplexer (circuits)
9	second (full) adder
10 - 13	output terminals
20	analog-to-digital converter
21	input of the analog-to-digital converter
22	input stage
23	reference stage
24	reference voltage source
A, B, C	inputs of the adders
D0 - D15	analog output signals
CO, S	outputs of the adders
in(0) - in(15)	bits/bit signals of the thermometer code
out(0) - out(3)	bits/bit signals of the binary output code
S0, S1	selection terminals of the multiplexer
VI	analog input signal
MSB	most significant bit(s)
LSB	least significant bit(s)
MSS	most significant segment(s)
LSS	least significant segment(s)